

Attachment

The following pages show images that were obtained during recovery attempts of obliterated serial numbers on various firearms. The image quality presented here is limited by resolution of the printing equipment used to produce this hardcopy of the photos. In addition, the quality of the images was limited by the photographic skills used to capture the original pictures. The following presentations should be viewed, therefore, as somewhat inadequate visual aids meant to enhance and illustrate the observations made on the opening page of each firearm study.

Remington 12 gauge shotgun

In the following images, both the serial number and part of the Remington name were ground away using a Dremel[®] tool. Magnetic recovery attempts were made using the large coil in a horizontal wet machine, as well as using a portable yoke and various electrical excitation methods.

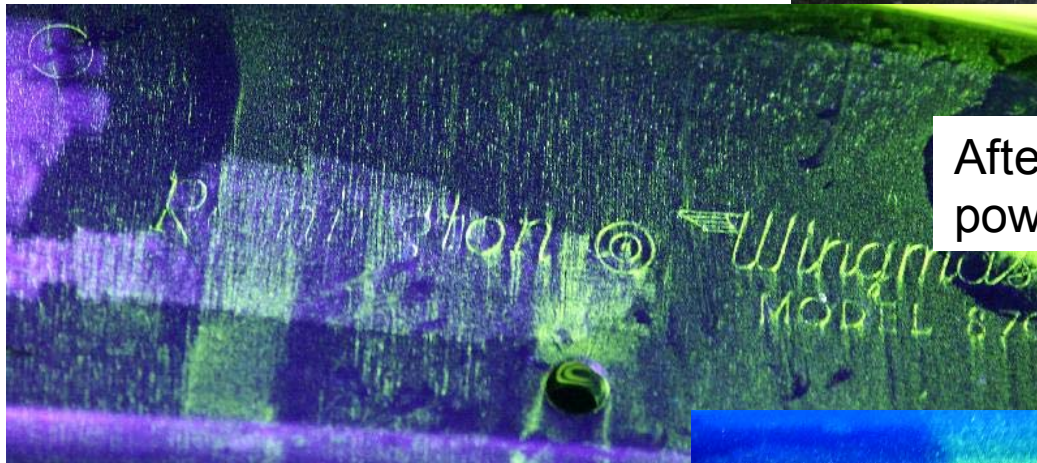
- In this thin walled sample (internal assembly of shotgun removed), DC power to the yoke worked better than DC in a coil
- Use of a portable yoke under AC power gave some acceptable results, but the indication was held in place far better using DC power
- In retrospect, the degree of obliteration was not that great, as traces of the serial numbers could be seen after magnification





As received – Remington
shotgun #T668337V

ground away with Dremel



After testing in coil using “DC”
power & bath - #T668337V



After testing in yoke using “DC”
power & aerosol - #T668337V



Using AC power
to yoke

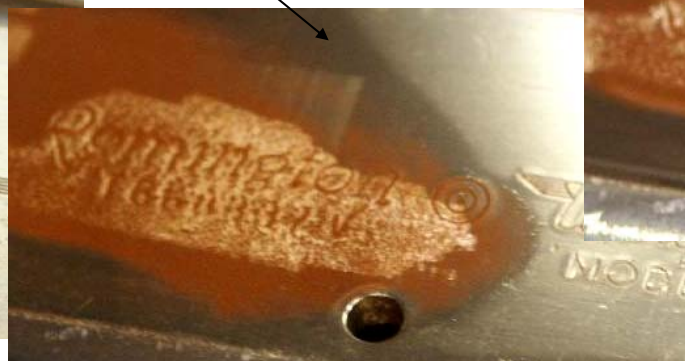
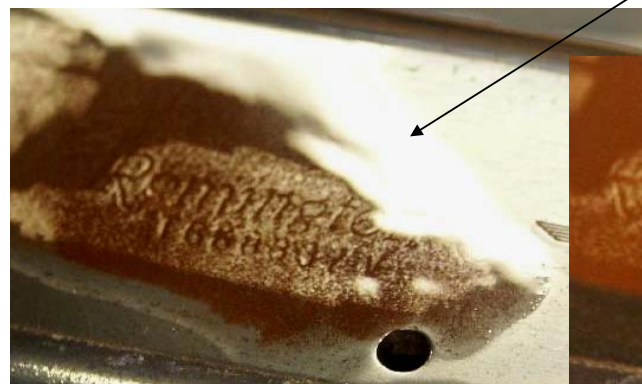


original

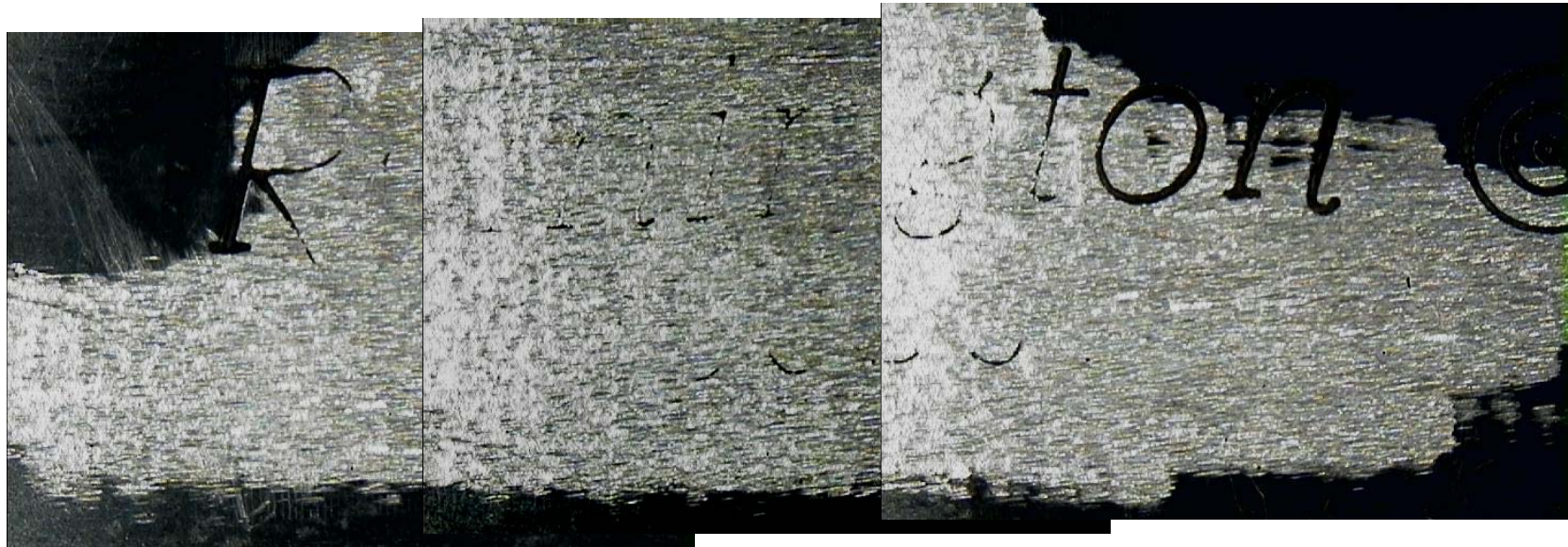


obliterated

Using DC power
to yoke



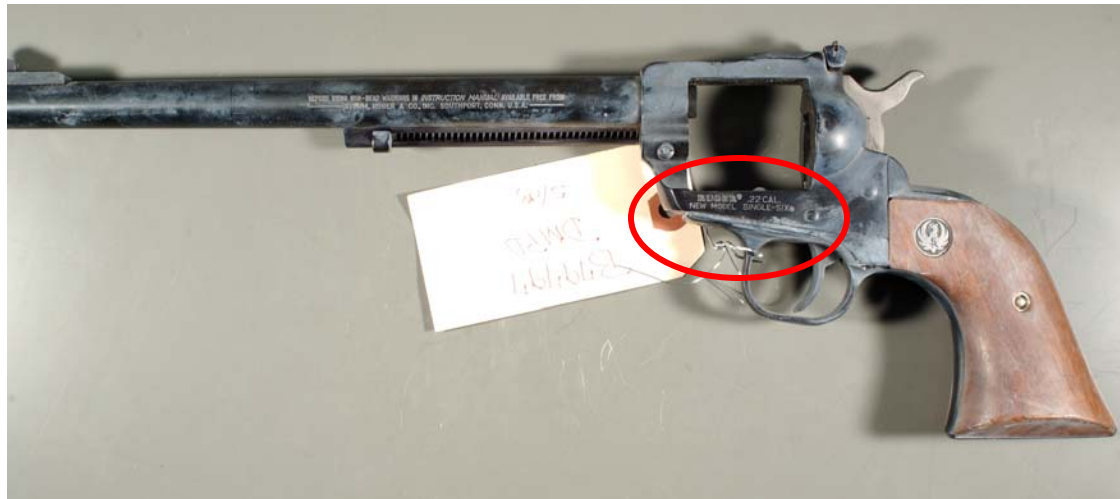
- Close-up of ground serial number region on shotgun
- at 7X the “obliterated” words and numbers are very subtly evident



Ruger single-6 revolver .22 cal

A portion of this firearm that had both the serial number and some wording on it was removed and these markings ground away to some degree.

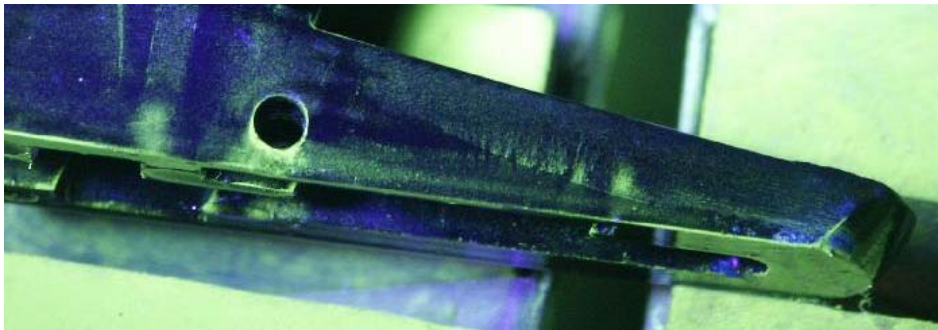
- Testing in a coil showed completely negative results; using a yoke and DC power caused portions of the serial number to become slightly evident
- Polishing, or really fine grinding, improved the detectability of the serial number and stamped words; if not fully legible, features were becoming clearly evident





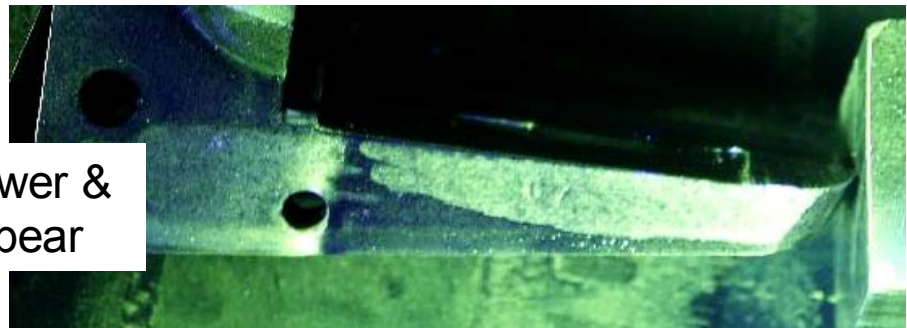
As received – Ruger single-6
.22 cal #67-98998

ground away with Dremel



After testing in coil using “DC”
power & bath – no # visible

After testing in yoke using “DC” power &
aerosol - # beginning to slightly appear



As received – Ruger single-6
.22 cal #67-98998



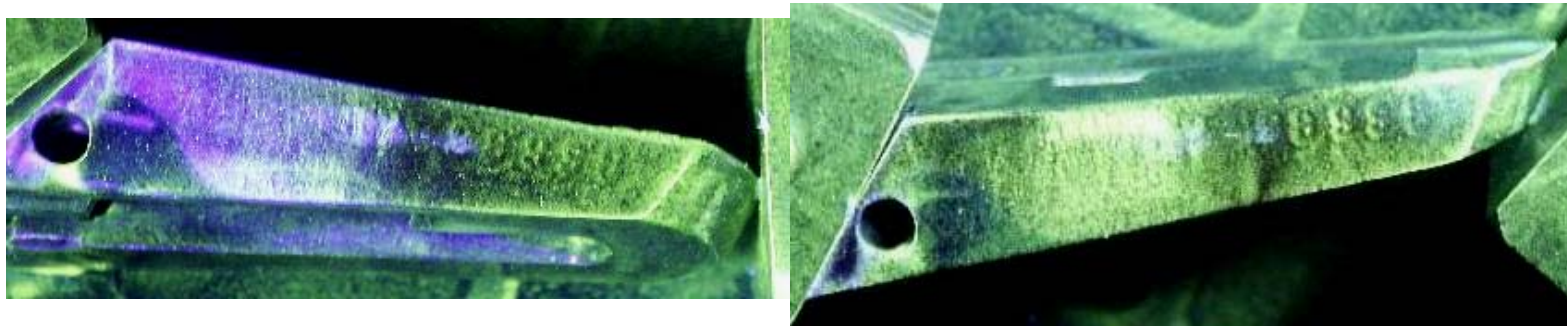
Rough ground



Polished



Using DC power to yoke with aerosol fluorescent
particles – serial # more visible



Ruger single-6 .22 cal -
name partially ground



Name polished



Using DC power to yoke - missing words clearly
visible



Ruger single-6 .22 cal #67-98998 and name,
after polishing and testing in DC coil – results
poor



Ruger Mark II .22 cal target

This firearm had the serial number on a thick walled portion of the barrel assembly. Preliminary microstructural study suggested that this steel would be quite different from the others, and the prognosis for serial number recovery was not good.

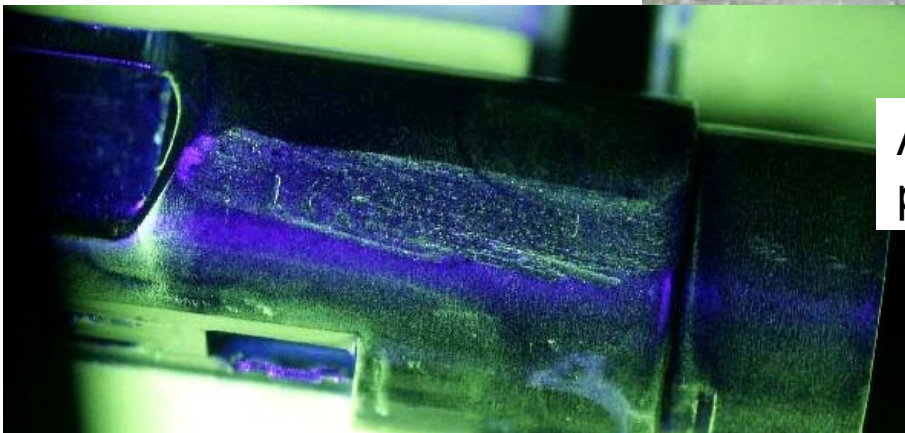
- Testing in a either coil or a yoke did not provide good recovery of the ground-away serial number
- Polishing/fine grinding of the number, along with using true DC to yoke, allowed some features to become faintly visible, not did not make the number legible





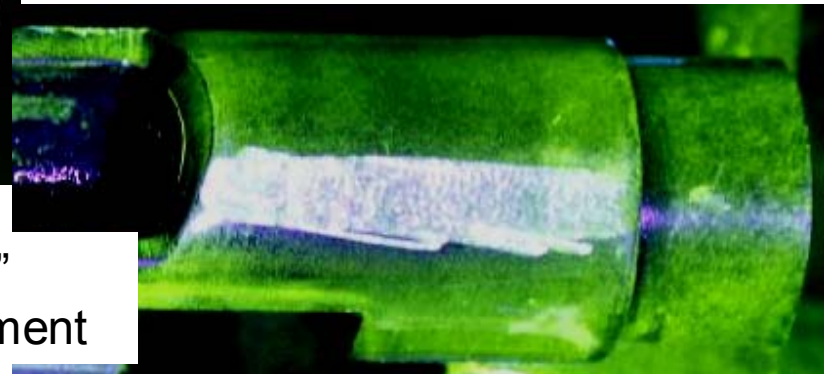
As received – Ruger target .22 cal

ground away with Dremel

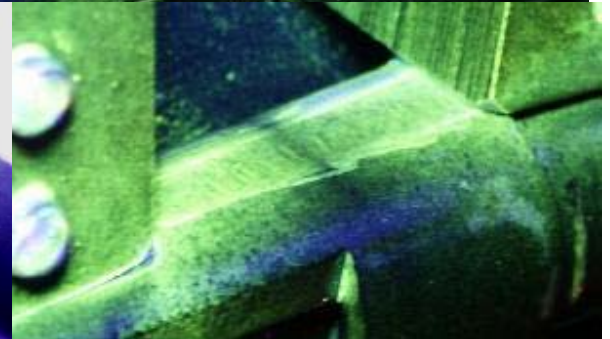
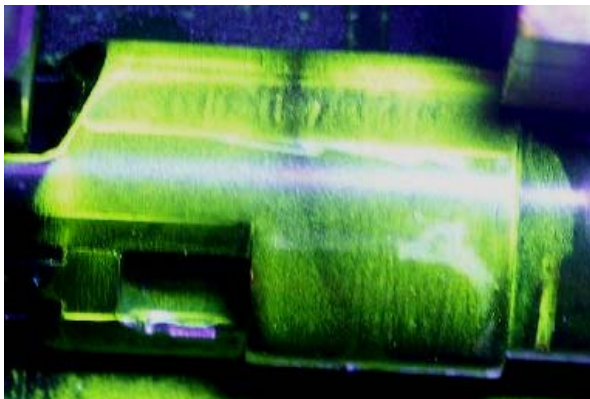
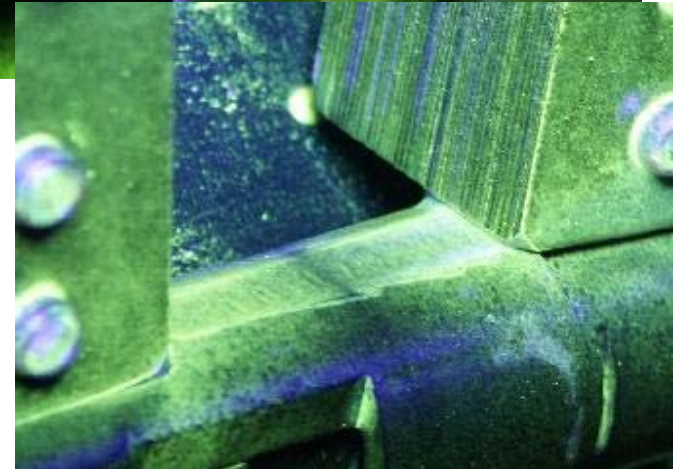
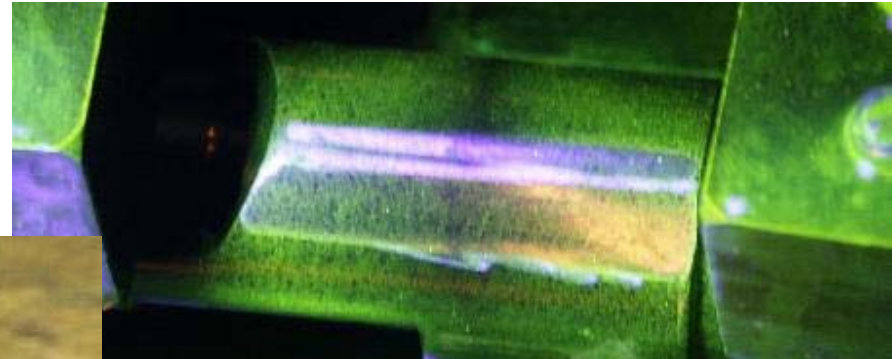


After testing in coil using “DC”
power & bath – # not quite visible

After testing in yoke using “DC”
power & aerosol – no improvement



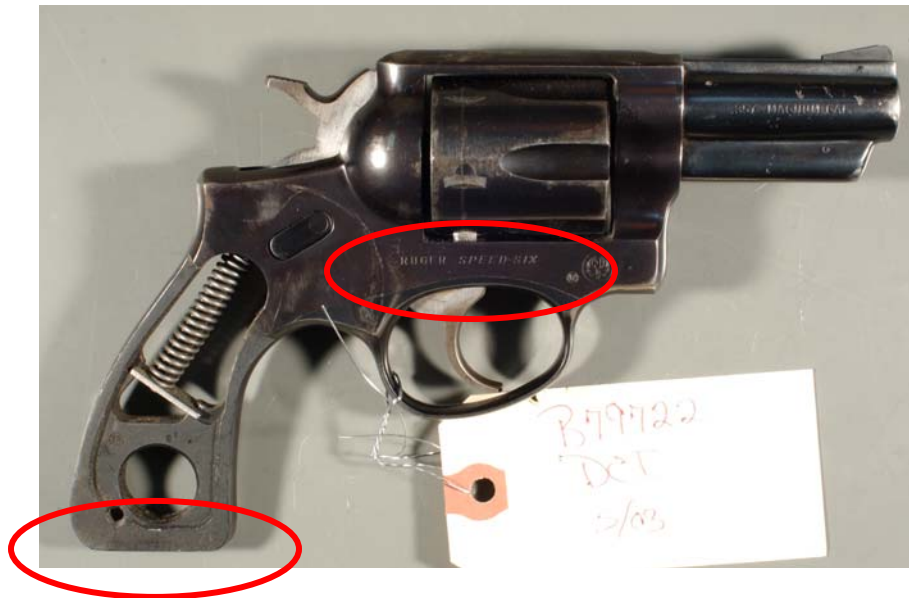
Ruger target .22 cal – after polishing & testing with DC yoke – nothing clearly visible, but shadowy numbers seen



Ruger speed-6 revolver .357 cal

One portion of this firearm was removed and grinding done on stamped lettering on the piece. The serial number was on the butt of the handle. Both regions were originally connected as one solid component.

- Testing in both a coil and with a yoke, both while using DC power, revealed the lettering, but upon closer inspection at 7X magnification, this wasn't much of a challenge
- The serial number was truly ground away, leaving no evidence; recovery was not achieved in a test coil, and the numbers were indistinct in a yoke using DC power
- After polishing/fine grinding and using DC power, numbers are not legible, but begin to show positions





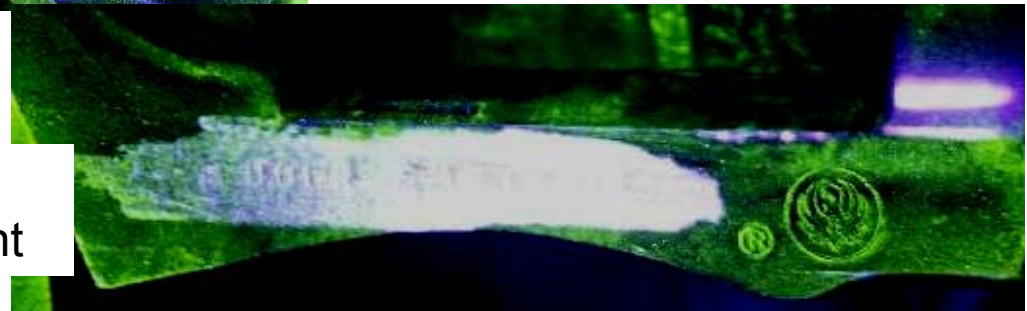
As received – Ruger speed-6
.357 cal

name ground away
with Dremel – (not
much of a challenge
when viewed with
magnification)



After testing in coil using “DC”
power & bath – name visible

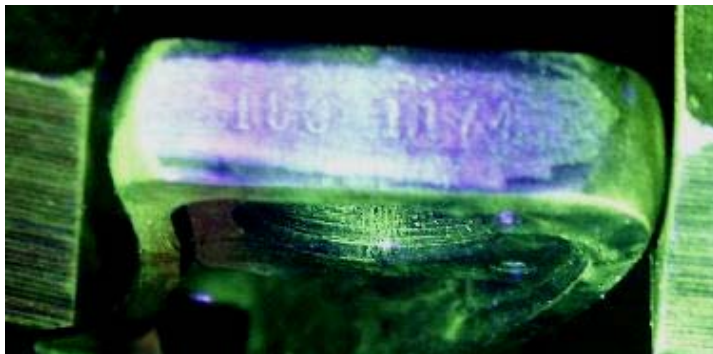
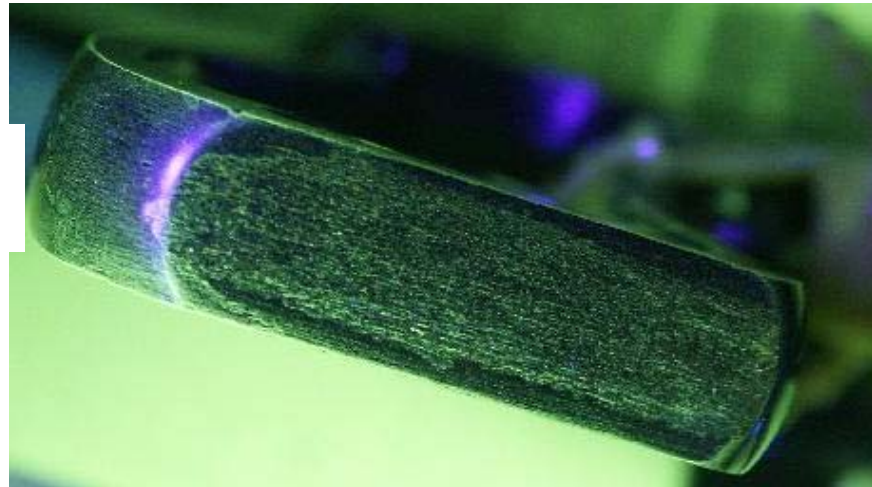
After testing in yoke using “DC”
power & aerosol – no improvement





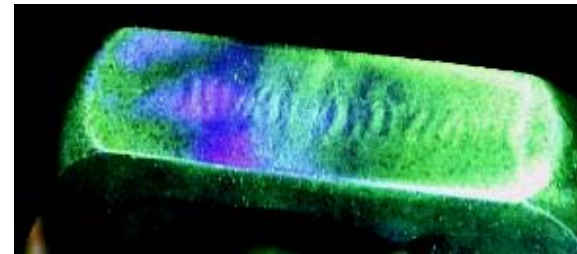
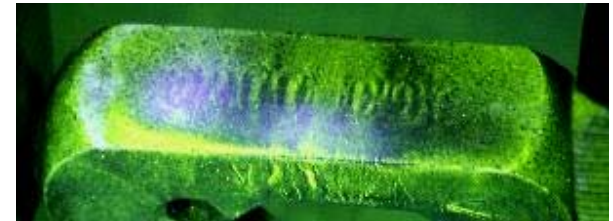
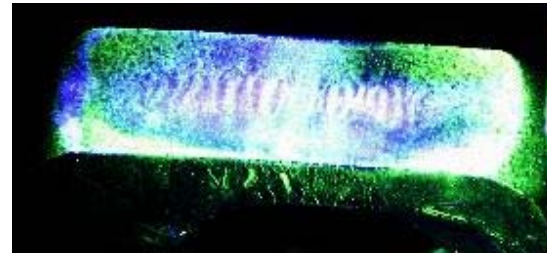
Ruger speed-6 .357 cal –
serial # ground away
(*should read 153-11743*)

After testing in coil using “DC”
power & bath – # not visible



After testing in yoke using “DC” power
& aerosol - # beginning to appear

Ruger speed-6 .357 cal – after
polishing and testing in DC yoke,
DC coil – something appearing, not
very clear



Ruger .38 special

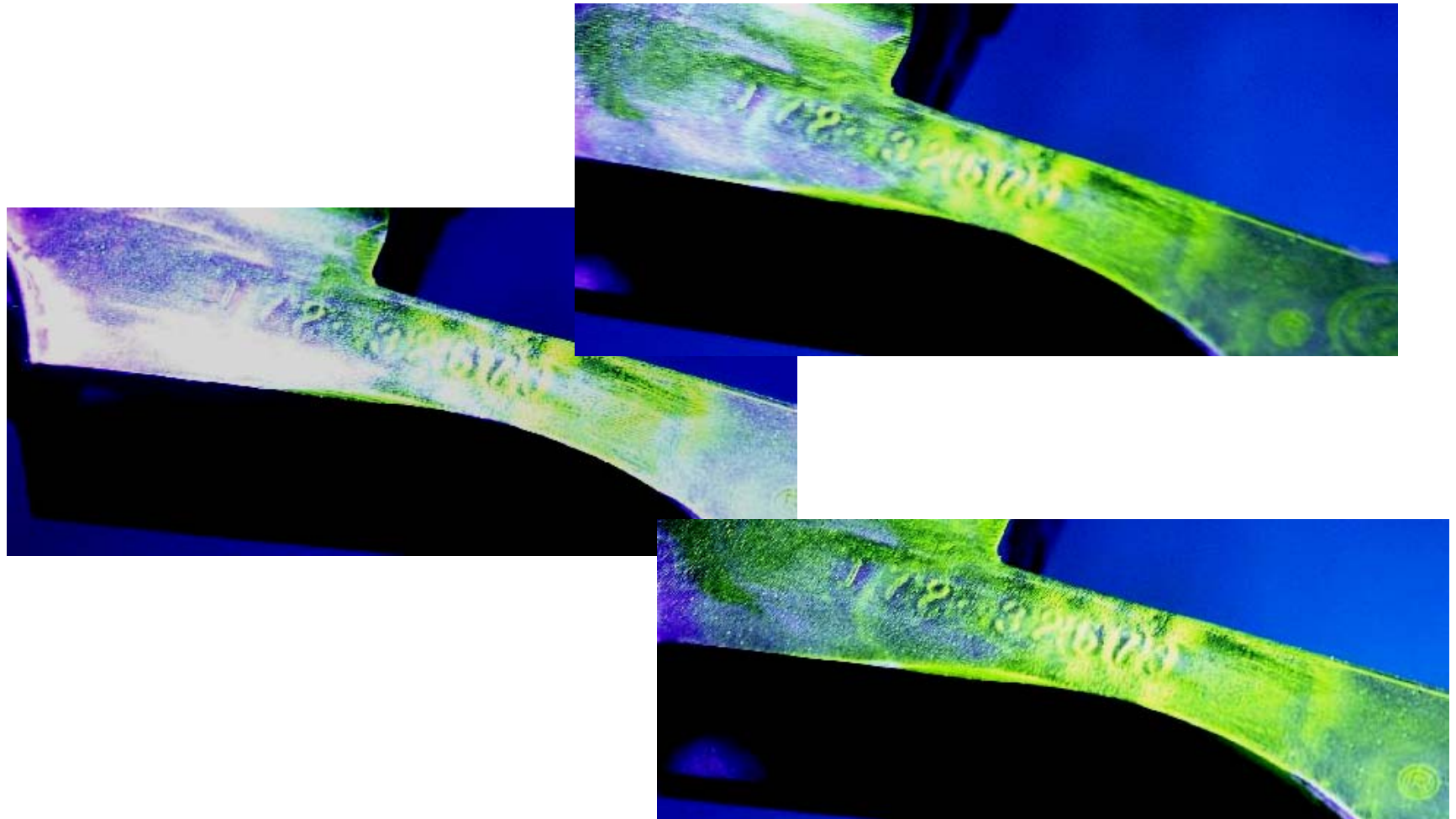
This firearm was a magnetic stainless steel suitable for magnetic particle testing. The serial number had already been removed as part of a training exercise performed by DCI.

- This sample was tested in a yoke using DC power and visible magnetic particles; this permitted a fair reading of several of the digits in the serial number
- Using fluorescent particles, high contrast, full legibility of the serial number was possible
- Although the serial number (except for the first number) was not visible under magnification, and no fine grinding was performed, this magnetic stainless steel performed quite well in this test



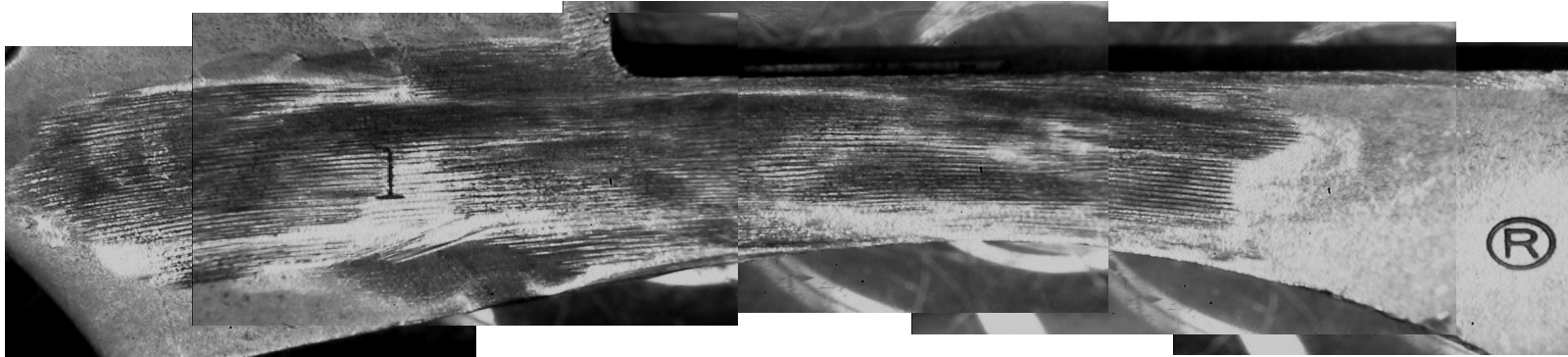


After testing in yoke using "DC"
power & visible particles – some
numbers appearing



After testing in yoke using “DC” power
& fluorescent particles – numbers fairly
visible – correctly reveal #172-32573

Close-up of obliterated serial number
indicates that it was not an easy challenge
– number should read 172-32573



Taurus .357 magnum

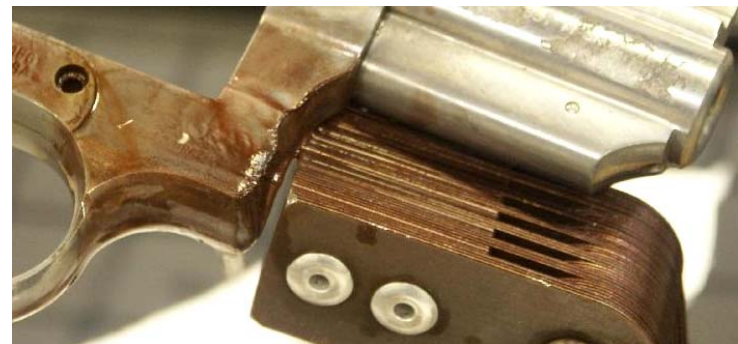
The serial number on this firearm had previously been removed, and various acid etching attempts had been made to bring out the numbers on this magnetic stainless steel sample.

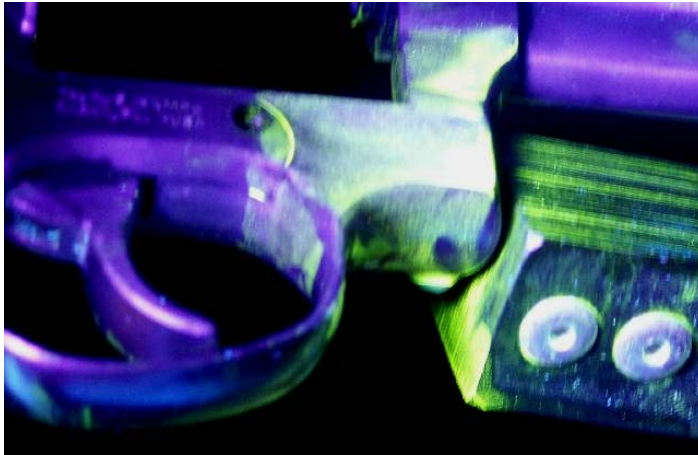
- This sample was tested in a yoke using DC power, with both visible and fluorescent magnetic particles; neither technique worked
- Magnetic particle testing is nondestructive to the test firearm; if there is a chance that this technique will work, it should be attempted prior to acid etching





After testing in yoke using “DC”
power & visible particles – number
not visible





After testing in yoke using “DC”
power & fluorescent particles –
number not visible

